

NATIONAL CAVE AND KARST RESEARCH INSTITUTE

MONTHLY UPDATE FOR MAY 2004

PROGRESS MADE BY THE INSTITUTE STAFF AND PARTNERS THIS MONTH:

- Dale Pate, Cave Specialist at **Carlsbad Caverns National Park** led Lewis Land (LL), Tom Strong (TS), and Louise Hose (LH) on a half-day tour of the Park and main Cavern. Pate briefed the group on cave-related practices and issues within the Park.
- TS and LH reviewed the proofs for the **2003 Annual Report**. LH worked with the NPS printing staff on the production. Publication of the 2003 NCKRI Annual Report was completed and shipped. We began distribution at the end of the month.
- LH and TS discussed the Institute with **local and out-of-state cavers** who dropped by the NCKRI offices.
- The Institute received copies of ***Ice Age Cave Faunas of North America***, edited by Blaine Schubert, Jim Mead, and Russell Graham. NCKRI contributed financial support to the **Denver Museum of Nature and Science** for the publication of this book.
- TS and LH organized and inventoried the book and journal collection donated to **NCKRI library** by Dr. Warren Lewis.
- TS and LH attended the **Southwest Region of the National Speleological Society** meeting and gathering over the Memorial Day weekend.
- Rich Wolfert of **Inner Realm Books** began providing **appraisal services** on publication donations to the Institute in order to document this aspect of our in-kind, non-federal matching funds.
- TS continued drafting a standardized **annual report format** for partners in **cooperative agreements**.
- TS began preparing an outline for North American Volume of ***World Atlas of Karst***. He continued contacts with Series Editors Elery Hamilton-Smith and Tom Rea.
- TS continued internet searches for potential sources of **grant money** to support NCKRI. He prepared a memo summarizing results of this effort.
- TS submitted résumé for consideration as member of advisory board to advise **Pima County, AZ**, on issues related to cave management and science.
- TS met with NPS Cave Specialist Dale Pate to discuss a **research project on vertebrate species** use of caves in **Carlsbad Caverns National Park** and began preparing a proposal for this project.
- TS talked with Dr. Tom Kunz at **Boston University** about the **bat publication** that NCKRI has sponsored. BU met with some unexpected delays, but they expect to have the manuscript to the publisher by the end of the summer.
- TS had preliminary discussions with a **potential donor** regarding transfer of his geology and cave files to NCKRI.
- TS participated in a **bat count** at Yellowjacket Cave, NM.
- A preproposal to the **National Science Foundation** to establish an **IGERT** program (Interdisciplinary Graduate Education, Research, and Training) at New

Mexico Tech. was submitted this month with PB as Principal Investigator. The project, entitled Hydro-CIRCL, aims to use the vertical integration of flow of materials and energy between surface and subsurface systems with hydrological processes binding the theme together. Participants include faculty from Hydrology, Geology, Chemistry, Biology, and NMT President Dan Lopez in his academic capacity as a public policy and higher education expert.

- The Earth and Environmental Sciences Department has admitted Ms. Laura Rosales to the **PhD program in Geochemistry** to work in the Cave and Karst Studies Program under Boston's direction. Her thesis project will involve the **origin of sulfur** involved in various examples of **acid speleogenesis** and the degree to which the various elements in such caves have been worked by biological and abiological processes over time, using primarily stable mass isotopic and other geochemical techniques. This project will tie the ancient caves of **New Mexico** and the modern sulfur caves of **Mexico** together intellectually and promote international collaboration amongst the speleological community. We look forward to her arrival this fall with the incoming crop of three other new cave and karst students.
- The Cave and Karst Studies Program has agreed to share the cost of a new **carbon and nitrogen elemental analyzer** to be housed in the Chemistry Dept. and available to support cave studies. We also have agreed to collaborate on instrument purchase and use with several other groups and will announce those instruments when they are selected. The new state-of-the-art **mass spectrometer** facility in E and ES under the direction of Dr. Andy Campbell is another instrumental collaboration with Cave and Karst. Our contribution made it possible to expand the instrument's capability to analyze sulfur.
- LL did fieldwork in and around **Fort Stanton Cave**, Sacramento Mountains, NM, with **Cave Research Foundation** personnel.
- LL investigated Rocky Arroyo and Dark Canyon to assess potential field trip stops for the New **Mexico Geological Society** 2006 field conference, which will focus on caves and karst of southeastern New Mexico.
- LL submitted a formal proposal to the **US Fish and Wildlife Service** proposing work at **Bitter Lakes National Wildlife Refuge** east of Roswell, NM. This project, currently funded for \$22,500, will use environmental tracers to evaluate groundwater residence time in the San Andres artesian aquifer, which is the source for water discharging from springs and sinkhole lakes on the refuge. Refuge managers are concerned about the environmental impact of oil and gas drilling on the Bitter Lakes springs, which provide habitat for a variety of fauna and flora, some of which have been designated as endangered species by the Environmental Protection Agency. A better understanding of groundwater residence time is needed to make informed decisions about management of water resources on the Refuge.
- LL gave a presentation on karst hydrology of the lower Pecos region to a **Pomona College** (CA) field trip group.
- NCKRI staff prepared and submitted six (TS-2, LH-4) abstracts for presentations to be given at the **National Speleological Society Convention** in July.

- LH provided more interview information for *Sciences et Avenir* magazine (France).
- LH provided some new digital vocal comments for the English language production of the **Japanese Broadcasting Corporation (NHK)** science documentary that was filmed last year with the assistance of the Institute.
- LH worked with Judy Geniac in the NPS-Geologic Resources Division (GRD) on developing a formal **volunteer program** for NCKRI and on methods of quantifying in-kind matching for donated services. They and Jim Goodbar of the **Bureau of Land Management** also tried to arrange for a karst hydrologist to do volunteer work through the Institute and on behalf of the BLM but were unsuccessful due to visa restrictions.
- LH prepared a briefing for Tom Lillie, Senior Staff Member for the **Senate Subcommittee on National Parks** and conferred with Regional NPS staff in preparation for his visit to Carlsbad. LH and Carlsbad Mayor Bob Forrest then met with Tom Lillie, the Senior Staff member of the Senate's Subcommittee on National Parks and Dick Bouts, another staff member within the Senate's Committee on Energy and Natural Resources, in Carlsbad to provide information related to the Institute.
- LH spoke to the **Carlsbad Rotary Club's** noon-hour meeting.
- LH continued working with Don Paquette, Executive Vice President of the **National Speleological Society**, and Ed Kassman of the NPS-GRD on a draft Cooperative Agreement proposing NCKRI support and involvement in the Society's *Journal of Cave and Karst Studies*.
- LH attended the **Texas Speleological Society** convention in Burnet, Texas, where she had the opportunity to learn about many projects in Texas and recent activities in Mexico by Mexicans and Americans, sign copies of her MSc thesis that was recently published by the **Association for Mexican Cave Studies**, and discuss NCKRI with many attendees (and potential partners). She also made 2 presentations.
- LH continued working on the **NCKRI Business Plan**.
- LH answered questions and provided information to a representative of **NPS Director Fran Mainella** concerning the effort to transfer NPS funds to the City of Carlsbad for the design and construction of the headquarters building.
- LH and Penny Boston (PB) provided information to a query concerning a possible **donation to the Institute** of an entire set of *NSS Bulletins* and *Journal of Cave and Karst Studies*.

PLANS: Anticipated activities for the near future include:

- **Bulk mailing of the 2003 Annual Report** will be made by New Mexico Tech during the first week of June. Copies of the report may also be requested from nckri-mail@cemrc.org.
- Dr. **Arthur Palmer** of the State University of New York – Oneonta has agreed to give the next **NCKRI lecture** in Carlsbad, scheduled for 7:30 pm on June 28th.
- The Institute will continue working on a draft **business/operations plan**.

- Dr. **Tom Kunz** of Boston University expects to be in Carlsbad in July or August for a bat research project at Carlsbad Caverns, and has indicated his willingness to give a public presentation in our **lecture series**.
- Dr. **Kathy Lavoie** of State University of New York – Plattsburgh plans to help NCKRI with program development over the summer academic break.
- National Park Service staff will continue working on a **Cooperative Agreement between the NPS and the City of Carlsbad**, and another between the NPS and **New Mexico Tech** in order to facilitate the transfer of nearly \$2 million appropriated by Congress as a “pass-through” to the City for the NCKRI building.
- NPS staff will continue working with **New Mexico Tech** on a draft Cooperative Agreement establishing NMT as the **joint administrative partner** in NCKRI.
- NPS staff will continue working with the **National Speleological Society** on a draft Cooperative Agreement towards the publication of the ***Journal of Cave and Karst Studies***.

NCKRI STAFF:

PB – Penelope Boston, New Mexico Institute of Mining and Technology in Socorro, NM

LH – Louise Hose, National Park Service in Carlsbad, NM

LL – Lewis Land, New Mexico Bureau of Geology and Mineral Resources in Carlsbad

TS – Thomas Strong, New Mexico Institute of Mining and Technology in Carlsbad, NM